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# LEVELS OF LIVING

## Among Farmers in Three Colombian Neighborhoods


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## ABOUT THE AUTHORS

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The present publication is based on the author's Master of Science thesis at The Ohio State University, entitled, Socio-Economic Correlates of Levels of Living Among Farmers in Three Colombian Neighborhoods.

Dr. Everett M. Rogers was director of the present investigation while a Fulbright Lecturer in the Facultad de Sociologia, Universidad Nacional de Colombia, and Associate Professor of Rural Sociology (on leave) from The Ohio State University. He is now Associate Professor of Communication, Michigan State University, East Lansing.

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# LEVELS OF LIVING

Among Farmers in
Three Colombian Neighborhoods

## INTRODUCTION

### The Problem

The prime objective of all programs of economic and social development is to improve the welfare of man by increasing opportunities to satisfy his basic needs. Programs of economic development are dedicated to providing the institutional framework within which people living in poverty will have the opportunity to acquire sufficient goods and services so that suffering from poverty, hunger, illiteracy, and disease will be at a minimum.

Given an end which is to be optimized, a problem exists if an optimum condition for reaching this end has not beem attained.[1/*] In the present case the assumed end which is to be optimized is the level of living of the people of various nations. All programs of economic development are based on the assumption that new resources can be created or that limited resources can be combined in a different way from that at present in order that the level of living of a people may be raised to a more nearly optimum level. The level of living of an individual is the relative degree to which a person's basic needs of nutrition, clothing, housing, health, and sanitation are being met over a period of time.

The people of most nations have standards of living that are often higher than their levels of living. A standard of living is the desired degree to which a person's basic needs are met, while the level of

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* See footnotes which begin on page 32.

living is the actualities that exist. The state of personality disequilibrium that exists when an individual has a higher standard of living than his level of living, results in dissatisfaction and a desire to improve his level of living. Dissatisfaction with level of living is caused by various communication methods, especially the mass media, which provide individuals with comparisons of their conditions with the levels of living of other persons. Change agents may also seek to increase dissatisfaction with present levels of living as a means to motivate their clients toward adopting new technological ideas which should eventually result in higher levels of living. Of course, it is important that increasing dissatisfaction with existing levels of living be accompanied by means by which levels of living may be raised.

The central problem of this study was that the goal of most local, national, and international programs of directed social change is to raise levels of living, yet we have had few research studies that sought to determine the socio-economic correlates of levels of living in a developing country. Little is known about the personal characteristics, communication behavior, contact with programs of directed change, and attitudes and values of individuals with relatively high and low levels of living.

## OBJECTIVES

Numerous international and national agencies have been conducting economic development programs designed to raise levels of living in the underdeveloped[2/] countries of the world. These agencies have recognized the need for basic reforms and for national planning and implementation of new programs in order to be effective in raising levels of living. Basic to the success of any such program of directed social change is the identification and understanding of the social and

economic characteristics related with levels of living of individuals.

The objectives of this study were: (1) to develop measures of level of living and satisfaction with levels of living, and (2) to determine the characteristics correlated with levels of living and satisfaction with levels of living among farm families in Colombia.

## PAST RESEARCH

Much has been written about the social and economic characteristics of people at various levels of living in the relatively more developed areas of the world such as the United States.[3/] This study was conducted in order to learn more about the social and economic correlates of levels of living among farmers in a developing nation, Colombia. Two of the more significant studies completed in Latin America are those by Collazo-Collazo and others; and Fals Borda.

Collazo-Collazo and others[4/] developed a level of living scale based on data which they collected in Puerto Rico. Of the original list of 82 items, 40 family level of living items showing the highest degree of intercorrelation were selected. Each family was given a score of one for each of the items in its possession. The total score represented a relative measure of that family's level of living as compared to other Puerto Rican families in 1960. Examples of the 40 items used are a radio, cookstove, can opener, clock, sewing machine, and a toilet.

Fals Borda[5/] conducted a socio-economic study of the people of the rural vereda (neighborhood or township) of Saucío in the Departmento de Cundinamarca. The socio-economic characteristics of the people of Saucío as well as their environmental conditions are very similar to those in the three neighborhoods of the present study. Fals Borda used 13 material possessions and practices in his level of living scale:

1. Shoes
2. Hiring a person to do the laundry
3. Night table
4. Enameled tableware
5. Chest or trunk
6. Chairs
7. Table
8. Porcelain ware
9. Books
10. Mattresses
11. Tub
12. Wristwatch
13. Floor other than earth

The percentage of the 70 families in Saucío who were classified in each of five levels of living were:

| | |
|---|---|
| Aristocratic level of living | 1.4% |
| Superior level of living | 18.6% |
| Middle level of living | 17.2% |
| Inferior level of living | 41.4% |
| Indigente level of living | 21.4% |
| | 100.0% |

Fals Borda described the people at the superior level of living as mainly property owners controlling large farms. The houses of these people usually had floors other than earth, mattresses of wool, night tables, wristwatches, and various other furnishings. They were well dressed, had gone to school for more than three years, and were able to discuss various subjects related to agriculture. The people at the inferior level of living generally used no footwear, chairs, tables, or mattresses. They appeared to be in poorer health than the people at higher levels of living. However, they did possess tubs, clay pottery, and books, which the people of the indigente level of living did not have. The people at the indigente level of living were poorly paid laborers who were able to afford few level of living articles.

## SITE FOR PRESENT INVESTIGATION

Three Colombian neighborhoods were the site for this study, Pueblo Viejo, San Rafael, and Cuatro Esquinas. San Rafael and Cuatro

Esquinas are located in the Municipio (county) of Facatativa, and Pueblo Viejo is part of the Municipio of Zipacon. All three neighborhoods are located within 12 kilometers of Facatativa and within one hour's driving time from Bogotá. The three neighborhoods are located in the steep foothils of the Andes Mountains, just off the Bogotá plain.

The farm houses were located throughout the neighborhoods with the people living on their own land in a scattered farmstead pattern. In all three neighborhoods the school and small stores marked the centers of community life.

The three neighborhoods had much in common in their geographic, social and economic characteristics and their living conditions. The farmers in these neighborhoods intensively operated small farms on steep land. This was in contrast to the large, extensively operated haciendas (large farms) on the nearby Bogotá plain.

The national extension service had been conducting an active program in the three neighborhoods since about 1958. The extension service program included a Junta Veredal (Community Council), Club de Amas de Casa (Homemakers Club), and 4-S Clubs (4-H Clubs) in all three neighborhoods and cooperatives in Pueblo Viejo and San Rafael.

The cooperative in Pueblo Viejo was founded in 1960 by eight farmers who were reported to have invested a total of 70 pesos. The leader of this movement was the local school teacher and the extension agent (who provided technical assistance). By 1962, there were 60 members of the cooperative with a reported investment of 3,000 pesos. Almost all residents of the neighborhood did business with the cooperative whether they were members or not.

Experimental plots initiated by a school teacher in 1963 were another community project in Pueblo Viejo. Ten farmers had small

plots located near the school and the cooperative on which they try new crops and cultivation methods.

In San Rafael the cooperative was started in 1960, but later faltered due to organizational problems. After re-organization in 1962, it functioned with moderate success. A new building, built with voluntary contributions of labor and goods (plus some financial support from the national government through Acción Communal), was opened in 1963. A new aqueduct was completed in 1963 to supply water to homes near the school and cooperative building. The initiative for both projects came from the extension service.

There was no cooperative in Cuatro Esquinas. Each of the neighborhoods had numerous tiendas (small stores) that sold dry goods, staples, and liquid refreshment.

Transportation was a major problem, especially in San Rafael and Cuatro Esquinas. San Rafael had no bus service, but Cuatro Esquinas had bus service to Facatativa twice weekly. Pueblo Viejo had bus service to Facatativa and Zipacon on a daily basis. A good road ran the entire length of Pueblo Viejo. However, in San Rafael and Cuatro Esquinas, there were only dead-end roads that penetrated the neighborhoods.

Houses in the neighborhoods generally were constructed of adobe (mud bricks) with straw roofs (although some have metal or tile roofs) and dirt floors. There was no electricity in the neighborhoods and little piped water. Most water for drinking and washing came from streams, springs, or open ditches. There were few latrines.

Almost every farm had a few chickens, rabbits, dogs, hogs, cattle, horses, burros, or sheep. Livestock farming was not highly developed because the small plots of land had to be used for intensive crop

farming. The smallest farms had practically no livestock. The major crops produced in these three neighborhoods were potatoes, wheat, barley, beans and corn.

## HOW THE DATA WAS COLLECTED

The present investigation utilized data gathered as part of a larger project[6/] sponsored by the Facultad de Sociología, Universidad Nacional de Colombia, and the Programa Interamericano de Informacion Popular, San José. The three neighborhoods were selected because the extension service had been conducting a program of directed social change in them in recent years. The neighborhoods were typical of peasant life throughout the Andes Mountains region of Colombia.

Maps and the names of the families living in Pueblo Viejo, San Rafael, and Cuatro Esquinas were provided by the extension service in Facatativa. Each potential respondent was sent a letter, signed by the project director and by the local extension agent, explaining the nature of the study to be conducted and informing the household that they should expect an interviewer from the Universidad Nacional de Colombia to call upon them within the next few days.

The interview schedule was developed after a period of personal observation in the neighborhoods, informal discussions with change agents and families in the neighborhoods, and extensive pretesting of the instrument. Each of the 12 interviewers had had previous interviewing experience and all but one had completed three years of training in sociology.

Interviewing was completed in November and December, 1963. Interviews were completed only with heads of farm households who made the decisions on some farm land. Those eligible included both owners and renters of farm land, but not farm laborers who worked full-time on

another farm or non-farm laborers. Almost all of the respondents were men, but a few widows who were heads of farm households were also included.

In this manner, 160 usable schedules were obtained from the 192 eligible respondents (83 per cent). The number interviewed was:

| | Pueblo Viejo | San Rafael | Cuatro Esquinas | Total |
|---|---|---|---|---|
| Completed Interviews | 67 | 36 | 57 | 160 |
| Ineligible to be Interviewed | 16 | 16 | 5 | 37 |
| Incomplete Interview | 0 | 0 | 5 | 5 |
| Unable to Contact | 6 | 4 | 8 | 18 |
| Refusals | 4 | 5 | 0 | 9 |
| Number of Heads of Households | 93 | 61 | 75 | 229 |

Because of the general similarity of farm life in each of the three neighborhoods the completed interviews were pooled to make a total sample of 160 farm families

## STATISTICAL METHODOLOGY

After the interviews were completed, the data were coded, scored, and recorded on IBM cards in Bogotà. Through the computer facilities of the Ohio State University Research Center, a block correlation was computed to determine the coefficient of correlation for each variable with each other variable in the study.

Conceptual variable analysis is a method of relating theory (the postulated relationships among concepts) to research (the empirical testing of postulated relationships) and research to theory. An operational measure (or measures) of each independent variable is related to the dependent variable(s) in the form of empirical hypotheses.[7/]

The empirical hypotheses in the present study are tested by means of the Pearsonian coefficient of correlation. Correlation may range from +1.0, the highest possible positive relationship between two variables; to zero, no relationship; to -1.0, the highest possible negative relationship. In the present investigation with a sample of 160 farmers, the coefficients of correlation must be greater than .130 to be significantly different from zero. One level of significance is utilized throughout the present publication, the five per cent level, in testing all hypotheses.

## MEASURING LEVEL OF LIVING

The level of living of an individual is the degree to which that person's basic needs of nutrition, clothing, housing, health, and sanitation are being met over a period of time. Level of living was measured in two different ways.

1. Material Household Possessions. Income is a major indicator determinant of level of living, but because of the difficulty in obtaining accurate estimates of family or per capita income among respondents in the present study, an inventroy of material household possessions was made in order to obtain an indication of levels of living. During each personal interview it was determined whether or not each farm family possessed each of the following eight items:

   (1) A kitchen in a room separate from the rest of the house

   (A basic sanitation method that is recommended in Colombia.)

   (2) An enclosed latrine.

   (3) A medicine cabinet.

   (4) A flashlight.

(5) A wristwatch.

(6) A sewing machine.

(7) A grain grinder.

(8) A radio.

Each farm family was then given a score of one for each item possessed. Total scores ranged from zero to eight. Of the 160 respondents:

15 had 0 of the level of living items

27 had 1 of the level of living items

31 had 2 of the level of living items

28 had 3 of the level of living items

25 had 4 of the level of living items

12 had 5 of the level of living items

9 had 6 of the level of living items

4 had 7 of the level of living items

9 had 8 of the level of living items

The mean number of the eight household items possessed by the 160 farm families was three.

Clearly, the concept of level of living as defined previously in the present publication includes more than is included in the empirical measures just described. For example, in addition to the material possessions included in the scale other factors relating to health, nutrition, housing, and sanitation could have been included. In fact, the possible items that could be included in a level of living scale are infinite in number. It must be assumed that the items presently utilized to measure level of living represent a sample of all the possible factors that could be selected to measure level of living.

Another possible problem with the present measure of level of living is that it may partly measure possession of certain sub-cultural values among Colombian campesinos (rural residents) which directly affect level of living. For example, some campesinos could afford to purchase a flashlight, but they do not fully understand how one operates and refuse to utilize an object that they regard as magical. Also, some campesinos do not use certain items in the level of living scale for fear they will appear pretentious to their neighbors. Thus, there are sub-cultural values among the respondents which may serve to prevent their use of various level of living items. However, for whatever reasons, the absence of these material possessions indicates certain living needs are not being met. The present scale, composed of eight material possessions, is considered a fairly accurate gauge of level of living.[8/]

2. Self-Perceived Level of Living. Each respondent was shown a small card with a drawing of a ten rung ladder, and was given the following instructions:

> Let us suppose that on the top rung of the ladder is a person who lives in the best possible living conditions and that on the bottom rung of the ladder is a person who lives in the worst possible living conditions. On which rung of the ladder do you see yourself?

Respondents indicating the bottom rung of the ladder were given a score of 1, respondents pointing to the second rung were given a score of 2, etc. In this way each respondent was given a score of from one to ten. This score was used as the self-perceived level of living index.[9/] The distribution of these scores is as follows:

| Self-Perceived Level of Living Score | Number of Respondents |
|---|---|
| 1 (Lowest) | 7 |
| 2 | 22 |
| 3 | 25 |
| 4 | 21 |
| 5 | 39 |
| 6 | 21 |
| 7 | 7 |
| 8 | 8 |
| 9 | 4 |
| 10 | 6 |
| | 160 |

The mean score was 4.6. The material possessions and the self-perceived measures of level of living are positively related, but not so closely that the two measures are identical. Evidently an individual's psychological self-estimation of his level of living is not exactly the same variable as the material level of living items that he possesses. For this reason, the two measures of level of living will be separately correlated with various independent variables in the remainder of this publication.

## FACTORS RELATED TO LEVEL OF LIVING

In the present section, such independent variables as social characteristics, the nature of the farm operation, contact with agencies for directing change, communication exposure, and attitudes and values, are related to the dependent variable level of living. Two measures of the dependent variable are used in each case: The material possessions

scale and the self-perceived ladder rating. These are listed in the following table.

Correlates of Level of Living Scores

| General Hypothesis and Independent Concept Related to Level of Living | Independent Variable Correlated with Level of Living Scores | Coefficient of Correlation with Material Possessions Level of Living Scores | Coefficient of Correlation with Self-Perceived Level of Living Scores | Conclusion About General Hypothesis |
|---|---|---|---|---|
| Literacy | Functional literacy scores | +.414* | +.203* | Supported |
| | Ability to read a newspaper | +.305* | +.178* | Supported |
| | Ability to write a letter | +.319* | +.152* | Supported |
| Mass Media Exposure | Mass media exposure scores | +.592* | +.407* | Supported |
| Empathy | Empathy scores | +.336* | +.252* | Supported |
| Cosmopoliteness | Trips to Bogota | +.557* | +.275* | Supported |
| | Knowledgibility scores | +.600* | +.446* | Supported |
| Aspirations for Children | Educational aspirations | +.501* | +.374* | Supported |
| | Occupational aspirations | +.238* | +.205* | Supported |
| Achievement Motivation | Achievement Motivation scores | +.369* | +.263* | Supported |
| Contact with Change Agents | Contact with extension Agents | +.170* | +.029 | Not Supported |
| | Contacts with school teachers | +.107 | +.108 | Not Supported |
| Innovativeness | Agricultural innovativeness | +.344* | +.227* | Supported |
| Land Tenure Status | Percentage of land owned | +.071 | +.252* | Not Supported |
| Farm Size | Number of Fanegadas | +.485* | +.187* | Supported |
| | Man days of labor | +.303* | +.143* | Supported |
| Opinion Deadership | Sociometric Scores | +.243* | +.190* | Supported |
| Social Status | Interviews' Ratings | +.615* | +.498* | Supported |

* Correlations of .130 or greater are significant at the five per cent level.

## Literacy

It is hypothesized that level of living varies directly with literacy. Literacy is an indication of educational levels, which are assumed to result in higher levels of living. Only literates are able to receive certain mass media communications (newspapers, magazines, books), and exposure to these media should result in higher levels of living. Literacy may be measured as the ability to read a newspaper, write a letter, or by a functional literacy test.

A functional literacy test was administered to the respondents by asking them to read the sentence, "El hombre movio la mano rapidamente en ademan de respeto," from a card during the interview. The six key (underlined) words represent a range of reading difficulty.[10/] Sixty-four of the 160 respondents (40 per cent) could read none of the words, and 60 (38 per cent) could read the entire sentence correctly.

Functional literacy scores were found to be significantly related to the possessions level of living scores, and the self-perceived level of living scores.

Each respondent was asked whether or not he was able to read a newspaper; this is a self-perceived measure of literacy. Ninety-four respondents (59 per cent) said they were able to read a newspaper, and 66 respondents (41 per cent) said they were not. This measure of literacy was found to be significantly related to the material possessions level of living scores, and the self-perceived level of living scores.

Each respondent was also asked whether or not he was able to write a letter. Eighty-five respondents (53 per cent) said they were able, and 75 respondents (47 per cent) said they were not. This measure of literacy was found to be significantly related to both the material

possessions level of living scores, and the self-perceived level of living scores.

From this we conclude that level of living varies directly with literacy.

## Mass Media Exposure

It is hypothesized that level of living varies directly with exposure to mass media communications. People informed of new ideas are more likely to adopt innovations than those who are not so informed. The mass media communications in Colombia are heavily urban-oriented in their content, and so a farmer with greater mass media exposure is likely to be more aware of the generally higher levels of living that prevail in urban areas (and in certain other countries). Ideas about improvements in levels of living must reach farmers in Colombian neighborhoods from outside their social systems, the mass media communications systems are some channels through which these new ideas may flow.

Each respondent was scored on the basis of (1) the number of times per day he listened to radio, (2) the number of times per week he read a magazine or someone else read one to him, (4) the number of movies seen in the past year, and (5) the number of television shows seen in the past year. Mass media exposure scores were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with exposure to mass media communications.

## Empathy

It is hypothesized that level of living varies directly with empathy. Individuals with greater empathy (defined as the capacity to put oneself in others' roles)[11/] should have less traditional orientations, greater knowledge about life outside of their neighborhood and a higher level of knowledge and desire for various material possessions indicating level of living.

Empathy was measured by asking respondents what they would do about certain problems if they were in five different positions, ranging from president of the local neighborhood council (Junta Veredal) to president of Colombia. Their responses were scored on the basis of whether each respondent was able to put himself in each of the five roles.

Empathy scores were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with empathy.

## Cosmopoliteness

It is hypothesized that level of living varies directly with cosmopoliteness. An orientation outside a Colombian neighborhood as expressed in trips to urban centers, should result in understanding of less traditional ways of life, a desire for change, and a motivation for higher levels of living. Two possible measures of cosmopoliteness are (1) the number of trips to Bogotá, the nearest urban center, in the past year; and (2) a knowledgibility scale measuring comprehension of various public issues outside of the neighborhood such as the name

of the president of Venezuela, the name of the local representative to the national legislature, and the name of the Colombian national airlines.

A considerable range in number of trips to Bogotá was found; 14 of the 160 respondents had made no trips in the past year, while 10 had made 90 or more. The number of trips to Bogotá was found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores.

Knowledgibility scores were found to be significantly related to both the level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with cosmopoliteness.

## Aspiration for Children

It is hypothesized that level of living varies directly with educational and occupational aspirations for children. If a household head has high aspirations for his children, he is reflecting a desire for a higher level of living in the next generation. Likewise, farmers with higher levels of living are expected to have higher aspirations.

Each farmer was asked how many years of formal education he would like his eldest son to have. Nineteen of the 160 respondents (12 per cent) indicated three years or less, while 48 (30 per cent) indicated that they would like that their children have ten years or more. This might be interpreted as a rather high level of aspirations as the respondents themselves only averaged 2.4 years of formal education.

Years of education desired for the eldest son were found to be significantly related to the material possessions level of living scores, and the self-perceived level scores. Each respondent was

also asked what occupation he desired for his eldest son. Responses were categorized. For example, medical doctor was in the highest category. Occupational aspirations levels were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with educational and occupational aspirations for children.

## Achievement Motivation

It is hypothesized that level of living varies directly with achievement motivation. Achievement motivation is defined as a social value which emphasizes a desire for excellence in order to attain a sense of personal accomplishment.[12/] Farmers who possess high levels of achievement motivation should desire and obtain higher levels of living.

Achievement motivation was measured by means of a scale composed of sentence completion items; evidence of the scale's validity, reliability, and internal consistency is presented elsewhere.[13/] Several typical scale items are: (1) "The thing most necessary for my farm is..."; (2) "A good farmer must have..."; and (3) "If my work did not progress, I...".

Achievement motivation scores were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with achievement motivation.

## Contact with Change Agencies

It is hypothesized that level of living varies directly with

contact with change agents. Agricultural extension agents and school-teachers provide information which leads to increased productivity and incomes. Hence, the more contacts a farmer has with agents of change, the more he should learn from them that will bring about increased productivity, increased income, and result in raising his level of living.

Ninety-nine of the 160 respondents (62 per cent) had no contact with extension agents in the past year, while six farmers had nine or more contacts. The number of extension service contacts was found to be significantly related to material possessions level of living scores, but not significantly related to the self-perceived level of living scores.

Each respondent was asked how many times in the past year he had talked to the school teacher about agriculture. One hundred twenty-eight of the 160 respondents (90 per cent) had no contact of this type. The number of contacts was not found to be sifnificantly related to either the material possessions level of living scores, or the self-perceived level of living scores.

We have not been able to conclude that level of living varies directly with contact with change agents.

## Innovativeness

It is hypothesized that level of living varies directly with innovativeness. Innovativeness is defined as the degree to which an individual is relatively earlier in adopting new ideas than the other members of his social system.[14/] The first farmers to adopt agricultural innovations in a neighborhood should receive increased productivity and incomes, and hence their levels of living should be higher.

An agricultural innovativeness score was computed for each respondent based on the time of adoption (relative to the other 159 respondents) of such innovations as chemical fertilizers, potato fungicides, insecticides, fumigants, feed concentrates for livestock, chicken cholera vaccine, cattle vaccine, tractors, vegetable gardening, new breeds of chickens, and crop varieties recommended by the local agricultural extension service.

Agricultural innovativeness scores were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with innovativeness.

## Land Tenure

It is hypothesized that level of living varies directly with land tenure status. Programs of land reform are based on the notion that people who own a higher percentage of land they operate will have greater interest in increasing the productivity of their land. This greater farm productivity should be related to levels of living.

Land tenure status was measured by computing the percentage of land operated that each operator owned. Thirty-six of the 160 respondents (22.5 per cent) owned none of the land they operated and 108 (67.5 per cent) owned all of their land. The measure of land tenure status utilized is independent of farm size.

The correlation of land tenure status was not found to be significantly related to the material possessions level of living scores, but was found to be significantly related to the material possessions level of living scores, but was found to be

significantly related to the self-perceived level of living scores. We were not able to conclude that level of living varies directly with land tenure status.

## Farm Size

It is hypothesized that level of living varies directly with farm size. Agricultural production should be greater on larger farms, and hence levels of living are expected to be linked to larger farm size. Farm size may be measured in fanegadas (one fanegada equals approximately one acre) or in days of labor devoted annually to the farm operation.

The mean number of fanegadas per farm was 11, but 93 of the 160 farmers (58 per cent) farmed four fanegadas or less, and five farms operated more than 90 fanegadas. Farm size in fanegadas was found to be significantly related to both the material possessions scores, and the self-perceived level of living scores.

The total man days of labor on the farm per year was computed for each respondent as his own labor (in days per year), minus the number of days of off-farm work, plus the number of days of hired labor on his farm. Labor contributed by family members was not counted as it was rather standard for most families and was difficult to determine. The mean number of days of labor per year was 377, which on an average farm of 11 fanegadas is one indication of severe underemployment of the average farmer in this study.

Farm size in man days was found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with farm size.

## Opinion Leadership

It is hypothesized that level of living varies directly with opinion leadership. People whose opinions are most sought are often people who have already achieved what others are striving to achieve.

Rather standard advice from social scientists to agents of change in traditional cultures is that they should concentrate their communication efforts upon opinion leaders. In this study, sociometric methods were used to locate the opinion leaders (defined as farmers who are sought as sources of information and advice). Each respondent was asked to name the farmer in his neighborhood whose opinion he would seek for each of six topics:

1. General agricultural problems
2. A potato disease
3. Sickness of a family member
4. Agricultural credit
5. Local politics
6. Agricultural marketing

The opinion leadership score was the total number of "votes" each respondent received;[15/] scores ranged from zero to 82.

The opinion leadership scores were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with opinion leadership.

## Social Status

It is hypothesized that level of living varies directly with social status. Individuals whose relative positions in a social system are expected to have higher levels of living. In one sense, level of

living is a part of social status; thus, we would certainly expect these two concepts to be related.

Social status was measured in the present investigation by a rating of each respondent in one of five social classes (this was done by the interviewer at the end of each interview). The interviewers were carefully trained in standard methods of making the social class ratings. Social status ratings were found to be significantly related to both the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that level of living varies directly with social status.

## SATISFACTION WITH LEVEL OF LIVING

### Measuring Satisfaction

An individual may be satisfied with his level of living whether it is relatively high or low. Satisfaction depends on a comparison of the individuals standard (or desired level) of living with his actual level of living. Satisfaction with level of living is important to the extent that it (negatively) indicates a motivation or desire for a change in level of living. For example, if a Colombian campesino has a relatively low level of living but is dissatisfied with his level of living, we would predict that he will seek to raise his level of living and that of his family. His dissatisfaction probably arises, at least in part, from invidious comparisons with others who have higher levels of living. Thus, cosmopoliteness as expressed through trips to urban centers, mass media exposure, and contact with change agents probably will lead (1) directly to dissatisfaction with level of living, and then (2) indirectly to higher levels of living.

Poverty is as old as civilization, but awareness of poverty and the conviction that something can be done about it on a world-wide basis is a recent development. The world-wide, rising expectations for higher per capita income and improved levels of living are caused (1) by the example set by certain countries (and certain parts of countries such as the urban centers) that general poverty is not inevitable, and (2) by improved communications systems which have diffused this idea swiftly and widely.

Satisfaction with level of living was measured by two self-anchoring ladder questions which asked the respondent to indicate (on a one to ten ladder scale): (1) how satisfied he was with his opportunities in life, and (2) how happy his life was. Responses to the two questions were combined to provide a composite measure of satisfaction with level of living.

## Factors Related to Satisfaction with Level of Living

We expect that satisfaction with level of living varies directly with farm size, tenure status, social status, and level of living. If a farmer is relatively better off than his peers in terms of his farm operation, social status, and level of living, we would expect him to be relatively more satisfied with his level of living. Correlates of satisfaction-with-level-of-living scores are presented in the following table:

CORRELATES OF SATISFACTION-WITH-LEVEL-OF-LIVING SCORES

| General Hypothesis and Independent Concept Related to Level of Living | Independent Variable Correlated With Level of Living Scores | Coefficient of Correlation with Satisfaction-with-Level-of-Living-Scores | Conclusion About General Hypothesis |
|---|---|---|---|
| Farm Size | Number of fanegadas | +.325* | Supported |
| | Man days of labor | +.254* | Supported |
| Tenure Status | Percentage of land owned | +.202* | Supported |
| Social Status | Interviewer's ratings | +.479* | Supported |
| Level of Living | Material possessions level of living scores | +.495* | Supported |
| | Self-perceived level of living scores | +.637* | Supported |
| Communication | Functional literacy scores | +.267** | Not Supported |
| Exposure and Cosmopoliteness | Ability to read a newspaper scores | +.201** | Not Supported |
| (Inverse relationship) | Ability to write a letter scores | +.161** | Not Supported |
| | Mass media exposure scores | +.398** | Not Supported |
| | Empathy scores | +.261** | Not Supported |
| | Number of trips to Bogota | +.338** | Not Supported |
| | Knowledgibility scores | +.440** | Not Supported |

* Correlations of .130 or greater are significant at the five per cent level.

**Significant at the five per cent level but an inverse relationship.

Satisfaction with level of living was found to be significantly related to the farm size in fanegadas, the farm size in man days of farm labor, the tenure status, the social status, the material possessions level of living scores, and the self-perceived level of living scores. We have concluded that satisfaction with level of living varies directly with farm size, tenure status, social status, and level of living. Farm families with higher levels of living are generally more satisfied with their level of living. However, the magnitude of the relationships between satisfaction with levels of living and various indicators of level of living indicates that satisfaction is (empirically, as well as conceptually) distinct from actual levels of living. The two variables are positively related, but are far from being the same concept.

We expect that satisfaction with level of living varies inversely with communication exposure and cosmopoliteness. It was pointed out previously that with wider communication exposure and cosmopoliteness, farmers living in Colombian neighborhoods are likely to become less satisfied with their level of living. They compare their situation with others living outside of their neighborhood and hence become dissatisfied with their own level of living.

Satisfaction with level of living was found to be significantly related to the functional literacy scores, the ability to read a newspaper, the ability to write a letter, the mass media exposure scores, the empathy scores, the number of trips to Bogotá, and the knowledgibility scores. All of these relationships are significant, but all are in the opposite direction than was expected. Therefore, we could not conclude that satisfaction with level of living varies inversly with communication exposure and cosmopoliteness. It appears that communication exposure and cosmopoliteness are positively associated with

satisfaction with level of living. Perhaps this positive relationship is due in part to the positive relationships that exist between communication exposure and cosmopoliteness and level of living (demonstrated earlier under "Literacy," "Mass Media Exposure," "Empathy," and "Cosmopoliteness"), and the positive relationships between level of living and satisfaction with level of living (shown in the above paragraph). Those farm families who are most satisfied with their level of living have most communication with the world outside of their neighborhood. Evidently, this cosmopolite communication leads directly to higher levels of living (or vice versa) and indirectly to greater satisfaction with levels of living.

## SUMMARY

The objectives of this study were (1) to develop measures of levels of living and satisfaction with levels of living, and (2) to determine the characteristics correlated with levels of living and satisfaction with levels of living among farm families in Colombia. The site for the present investigation was three neighborhoods located in the foothills of the Andes Mountains near the town of Facatativa near the plateau called the Bogota plain. Most farmers living in the three neighborhoods operated small farms of steep land with intensive farming practices. Each neighborhood had an elementary school, numerous shops (tiendas) and two of the three neighborhoods had cooperatives. The national extension service had been conducting a program of directed social change in the neighborhoods since about 1958.

Data were gathered from the heads of 160 farm families in the three neighborhoods in 1963. Interviews were attempted with all heads of farm households who made the decisions on some farm land. The respondents

included both renters and owners of farm land, but not farm laborers who worked full-time on another farm nor non-farm laborers.

Level of living of an individual is the degree to which that person's basic needs of nutrition, clothing, housing, health, and sanitation are being met over a period of time. This concept was measured by (1) a material possessions scale composed of eight level of living items such as a flashlight, sewing machine, grain grinder, enclosed latrine, and radio; (2) a self-perceived level of living rating made by each respondent with the use of the self-anchoring ladder technique. The respondents were handed a small card with a drawing of a ten-rung ladder, told that the top rung represented a person living in the best possible living conditions, the bottom rung represented a person living in the worst possible living conditions, and asked to indicate his own position on the ladder.

Level of living was found to be positively related to:

1. Literacy (measured by a functional literacy score, self-reported ability to read a paper, and self-reported ability to write a letter).
2. Mass media exposure (measured by exposure to radio, television, films, newspapers, and magazines).
3. Empathy (measured as the capacity to put oneself in others' roles).
4. Cosmopoliteness, an orientation outside of the social system (measured as the number of trips to Bogotá in the past year, and as the degree of knowledge about public issues outside of the neighborhood.
5. Education and occupational aspirations for children.
6. Achievement motivation, defined as a social value

which emphasizes a desire for excellence in order to attain a sense of personal accomplishment (measured by means of a sentence completion projective technique).

7. Innovativeness (measured as being relatively earlier to adopt new farming practices).
8. Farm size (measured both in number of fanegadas and in man days of labor per year.)
9. Opinion leadership.
10. Social status

It was not concluded that level of living was related to (1) land tenure status (3) social status, and (4) level of living. Farm families with higher levels of living are generally more satisfied with their level of living.

It was expected that farmers with greater cosmopolite communication outside of their neighborhood would become more dissatisfied with their level of living as a result of invidious comparisons with others who have higher levels of living. However, a contrary relationship was found. Satisfaction with level of living was related positively with measures of literacy, mass media exposure, empathy, and cosmopoliteness. Evidently greater cosmopolite communication leads directly to higher levels of living and indirectly to greater satisfaction with levels of living.

## CONCLUSIONS

The variables found to be associated with levels of living in the present investigation suggest that those Colombian farmers with the lowest levels of living are most difficult to reach with programs of

directed social change. They are generally illiterate, low in exposure to the mass media, low in empathy, and lack trips to urban centers. Furthermore, they are relatively later to adopt new farm ideas, have low aspirations for their children's occupation and education, and have low levels of achievement motivation. Thus, they lack communication and knowledge about methods to improve their levels of living, as well as motivation. These relatively lower aspirations may in part result from a lifetime of blocked attempts to raise their level of living; their farms are small and they generally lack financial resources.

However, the fact that those farm families with the lowest levels of living also were most dissatisfied with their level of living, suggests that perhaps programs of directed social change might be successful in raising levels of living if means would be provided for such improvement. Yet the present investigation indicated that those families with more contact with agents of change in the neighborhoods did not have higher levels of living. Of course, this may well be because the extension service program had only been in effect for less than five years in the areas studied.

Undoubtedly, raising levels of living in rural areas of developing countries is a long-term effort. Key factors in these efforts must be higher levels of education and greater contact with the mass media of communication.

## Future Research

The authors recommend future research to extend the present study in scope and method. For example, the present study does not:

1. Indicate whether the variables related to level of living are the cause or the effect of level of living

2. Show specifically how to raise either levels of living or those variables found to vary with level of living.
3. Explore the many other variables which probably vary with level of living.
4. Explore additional ways of measuring level of living.
5. Analyze the social and economic correlates of level of living in other developing areas.
6. Describe the social and economic correlates of level of living in the three neighborhoods at future points in time, analyze the variables correlated with change in level of living over a period of time.

However, it is hoped that the present study has contributed in at least part to the greater effectiveness of world-wide efforts to elevate people with low levels of living so that these people may become the sovereigns of, rather than the victims of, their circumstances.

## FOOTNOTES

1. Earl O. Heady, Economics of Agricultural Production and Resources Use, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1952.
2. For the purposes of this study, an underdeveloped country is one whose masses have low levels of living, whose per capita income is low, and whose problems of economic inequity and social injustices are serious. Because these nations are often making progress to solve these problems, they can better be termed "developing."
3. Examples of these studies on level of living in the United States are: John C. Belcher, "Evaluation and Restandardization of Sewell's Socio-Economic Scale," Rural Sociology, 16: 246-255, 1951; F. S. Chapin, The Measurement of Social Status, Minneapolis: University of Minnesota Press, 1933; Margaret J. Hagood and Louis J. Ducoff, "What Level-of-Living Indexes Measure," American Sociological Review, 9: 78-84, 1944; and William H. Sewell, "A Short Form of the Farm Family Socioeconomic Status Scale," Rural Sociology, 8: 161-170, 1943.
4. Jenaro Collazo-Collazo and others, Development of a Level-of-Living Scale for Puerto Rican Rural Families, Rio Piedras: University of Puerto Rico Agricultural Experiment Station Bulletin 136, 1960.
5. Orlando Fals Borda, Campesinos de los Andes; Estudio Sociologico de Saucio, Bogotá: Editorial Iqueima, 1961.
6. The larger project is entitled, "A Field Experiment of the Role of Opinion Leaders in Diffusing an Innovation in Three Colombian Neighborhoods," and is designed to test the rates of adoption of a new bean variety that result from introducing the innovation through (1) opinion leader farmers, and (2) innovators, in (a)

relatively more traditional and (b) relatively modernized social systems. The larger study was sponsored by the Programa Inter-Americano de Informacion Popular, San José, and the Facultad de Sociología, Universidad Nacional de Colombia, Bogotá.

7. For a detailed description of conceptual variable analysis, see A. Eugene Havens and others, Medicion en Sociologia, Bogota; Universidad Nacional de Colombia, Facultad de Sociologia, 1964. A concept is a dimension stated in its most basic terms. A general hypothesis is the postulated relationship between two concepts. An operation is the empirical referent of a concept; it may be a scale, index, or other measure. An empirical hypothesis is the postulated relationship between two operational measures of concepts.

8. See pages 51 to 53 of Socio Economic Correlates of Levels of Living Among Farmers in Three Colombian Neighborhoods, S. Thomas Stickley, Master of Science Thesis, The Ohio State University, Columbus, Ohio, 1964.

9. A generally similar measure of self-perceived level of living using the self-anchoring ladder technique has been utilized by Professor Hadley Cantril of Princeton University. In the present investigation some respondents were encountered who could not provide adequate responses to the ladder measure, or who answered in a way that caused the interviewers to doubt the validity of their responses. Most of the respondents, however, seemed able to grasp the somewhat abstract nature of the present measure.

10. A Guttman scale analysis of this functional literacy measure indicates it is unidimensional, that is, measures only a single dimension. Everett M. Rogers and William Herzog, "Functional

Literacy Among Colombian Peasants" in Vol. XIV, No. 2, Economic Development and Cultural Change, University of Chicago Press, Chicago, January, 1966.

11. Daniel Lerner, The Passing of Traditional Society, Glencoe, Illinois: Free Press, 1958.

12. This definition is based upon that of David C. McClelland (The Achieving Society, Princeton, N.J.: Van Nostrand, 1961), but comes directly from Everett M. Rogers and Ralph E. Neill, Achievement Motivation Among Colombian Farmers, Bogota: Universidad Nacional de Colombia, Facultad de Sociologia, 1965.

13. In Rogers and Neill, Ibid.

14. This definition is taken from Everett M. Rogers, Elementos de Cambio Social: Difusion de Innovaciones, Bogota; Universidad Nacional de Colombia, Facultad de Sociologia, 1964.

15. For a detailed analysis of opinion leadership in the same three Colombian veredas as in the present study, see Johannes van Es, Opinion Leadership and Social Change in Colombian Communities, M.S. Thesis, Ohio State University, 1964.